

## ATTACHMENT 2

### Control of Analytical Performance for the Statewide Water Quality Analysis Purchase Order

#### BACKGROUND

The Wyoming BLM collects a large amount of water quality data each year. Historically, the contract lab changes from year to year, and analysis procedures may not remain consistent. Although the lab has its own QA/QC program it is important to perform some reasonable level of external Quality Assurance (QA) to evaluate the accuracy of BLM water quality data. As a result, the assigned Field Office Project Inspectors (PIs) will be responsible for conducting their Office's QA measures to monitor contract lab performance.

#### SOME QUALITY ASSURANCE METHODS

PIs may submit stabilized samples of known constituent concentration (synthetic samples having known amounts of pure chemicals to distilled water) and evaluate the lab's performance on these samples. These may be purchased from another EPA certified laboratory<sup>1</sup>. Such purchases must be coordinated with the COR, Rick Schuler, and may be charged against the funding set aside at WY 930 for water quality analysis. Control samples should cover a range of concentrations consistent with natural waters occurring in the State of Wyoming. All QA samples should be submitted as "blind" samples so the lab does not know which sample is the quality assurance sample. Lab performance should be evaluated based on the advisory ranges (95 percent confidence interval) provided with the QA samples obtained from the EPA certified laboratory.

PIs are encouraged to submit splits (several duplicate sub-samples drawn from one large sample) and blanks (sample bottles filled with distilled water) with each batch sent to the lab. Lab performance standards cannot be established for splits and blanks since constituent concentrations cannot be documented, however, splits and blanks are a useful tool for evaluating sample handling procedures, and possible sources of contamination.

Other procedural checks are applicable on water samples for which relatively complete mineral analyses are made. These include checking the anion-cation balance or the ratio of conductivity to TDS. Details on these and additional quality assessment methods are available in "Standard Methods for the Examination of Water and Wastewater" or U.S. EPAs "Handbook for Analytical Quality Control in Water and Wastewater Laboratories".

Any failure of the lab to meet the advisory range should be reported as soon as possible to the other PIs and the COR. Failures of the lab to meet acceptable performance standards should be documented with the sample analysis results/report in question. Appropriate corrective measures (non payment, re-analysis of an entire batch, etc.) will be determined on a case by case basis by the Contracting Officer, based upon recommendations from the PI and COR.

<sup>1</sup>Energy Laboratories, Inc, Casper, WY, 307.235.0515; Western Environmental Services and Testing, Casper, WY, 307.234.5511; Paragon Analytics, Fort Collins, CO, 970.490.1511; Analytica Environmental Labs, Thornton, CO, 303.469.8868.